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मानक

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IS 15449-1 (2004): Household Zig-Zag Sewing Machine Head,
Part 1: General Requirements [MED 29: Sewing Machines]



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“Knowledge is such a treasure which cannot be stolen”

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भारतीय मानक

घरेलू प्रयोजनों के लिए जिग-जैग सिलाई मशीन हैड

भाग 1 सामान्य अपेक्षाएँ

Indian Standard

HOUSEHOLD ZIG-ZAG SEWING MACHINE HEAD

PART 1 GENERAL REQUIREMENTS

ICS 61.080

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BUREAU OF INDIAN STANDARDS
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NEW DELHI 110002

FOREWORD

This Indian Standard (Part 1) was adopted by the Bureau of Indian Standards, after the draft finalized by the Sewing Machines Sectional Committee had been approved by the Mechanical Engineering Division Council.

This standard has been formulated to facilitate standardization and with a view to establish quality and general requirements of zig-zag sewing machine head for household purpose.

In the preparation of this standard, assistance has been derived from IS 14769 : 2000 'Household sewing machine head — General requirements'.

The standard on household zig-zag sewing machine head is being brought in four parts. This standard covers the general requirements of household zig-zag sewing machine head, the other parts in the series are:

- Part 2 Accuracy requirements
- Part 3 Sewing requirements
- Part 4 Durability requirements

For the purpose of deciding whether a particular requirement of this standard is complied with the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

HOUSEHOLD ZIG-ZAG SEWING MACHINE HEAD

PART 1 GENERAL REQUIREMENTS

1 SCOPE

This standard (Part 1) covers the general requirements for household zig-zag sewing machine head.

2 REFERENCES

The standards listed in Annex A contain provisions, which through reference in this text constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated in Annex A.

3 SEWING MECHANISM

3.1 Design

Sewing machine shall be of single or twin or both needle design, equipped with a sewing mechanism for producing two thread lock stitch.

3.2 Reverse Stitch Mechanism

Sewing machines shall be provided with a suitable mechanism to reverse the feeding action of the feed dog for back-tack stitching. The feeding direction shall be controlled by the stitch regulator and shall be capable of being changed while the machine is in operation.

3.2.1 *Stitch Length Regulator*

The stitch length regulator shall be conveniently located in the machine. It shall be capable of adjusting and locking 8 numbers of stitches per 25 mm length. There shall be an indication for the increase/decrease of the length of stitch.

3.3 Thread Tension and Releasing

A thread tension arrangement shall be provided in each machine for both upper and lower threads and it shall be adjustable to the amount of tension required to achieve satisfactory stitches. Each machine shall be equipped with an automatic thread tension release, effective when the pressure foot is raised to the maximum height. The upper thread tension assembly shall have the provision for guiding two threads for twin needle sewing.

3.4 Timing

The timing of the needle in relation to the movement

of the shuttle and clearance between the side of the needle (nearer to the shuttle) and the shuttle point shall be such as to ensure that stitches are not shipped.

3.5 Fly Wheel and Stop Motion Screw

Each machine shall be fitted with a fly wheel designed in such a manner that the wheel can be disengaged from the sewing machine, when required by loosening the stop motion screw.

3.6 Bobbin Winder

A device shall be provided, mounted on the head of the machine, to wind the bobbin, which can be actuated without separate power but by friction contact with the flywheel, or driving belt of machine. The bobbin winder shall have suitable tension arrangement for controlling the thread to wind it evenly and with proper tension on the bobbin which shall be automatically released or stopped when bobbin is filled to nearly 80 percent of its capacity.

3.7 Spool Pin

Threaded/taper or collapsible type pins shall be provided with each machine to hold spools/tubes of thread on the arm.

3.8 Stitch Width Selector

Machines shall be provided with a suitable mechanism to increase the zig-zag bight width from zero straight stitch to 5.0 mm (bight width may be more or less than 5.0 mm depending upon the design of machine). Bight width shall be capable of being changed while the machine is in operation.

3.9 Needle Position Selector

Zig-zag sewing machines may be provided with a suitable mechanism for changing the needle positions at three different locations (left, centre and right) while the machine is in operation. The maximum displacement between left and right needle positions shall be equivalent to the maximum bight width of the machine.

4 OTHER COMPONENTS

The other components of the zig-zag sewing machine head may contain parts conforming to existing Indian Standards on sewing machine components.

5 LUBRICATION

Provision shall be made for ready and proper application of lubricant to all bearing and frictional surfaces on machine which shall be indicated in the instruction manual to be supplied along with the machine. Lubricating orifices may also be identified with the word 'OIL'.

6 WORKMANSHIP AND FINISH

6.1 Zig-zag sewing machine head and its accessories shall be of rigid construction, neat in appearance and ready for use. They shall be free from objectionable vibrations and shall be quiet in operation.

6.2 Painting

Surface coated with paint shall be hard, smooth, and free from irregularities, flaws, cracks, dust specks and other defects. Appearance of the painted surface shall be graceful, good in colour and lustrous. The paint shall be unaffected by lubricating oils and not liable to soften at the temperature up to 80°C. The surface shall also be free from the followings:

- a) Blemishes, stains, chipped paint and touch up, mars and scratches;
- b) Foreign matter in paint, uneven and wavy surfaces, paint run or floods and supplier; and
- c) Painted body and parts shall be examined for the orange peel appearance.

6.3 Silk screening shall be examined for the following:

- a) Correctness and uniformity;
- b) Alignment and straightness;
- c) Voids or gaps;
- d) Noticeable touch up;
- e) Shade of colour; and
- f) Scratches, misprinting or other damage.

6.4 Plating

Nickel and chromium plated parts shall satisfy the following conditions:

- a) Colour and lustre shall be good;
- b) Surface shall be smooth and free from plating defects, such as, blisters, pits, clouds, patches, cracks and stains; and
- c) Coating shall not peel off easily.

6.5 All exposed parts shall have smooth and clean appearance.

6.6 All exposed parts, including visible under bed parts shall be free from any signs of rust.

6.7 Plastic Parts

Plastic parts shall be examined for the following:

- a) Lustre and uniformity;
- b) Smoothness of finish, including sink marks;
- c) Uniformity of colour and shade; and
- d) Blemishes, stains, mars and scratches.

6.8 Top covers; face plates and similar parts shall be properly aligned and positioned.

6.9 Screws visible to the customer shall be checked for burrs, tool marks or other unsightly damage.

7 SAMPLING

7.1 Unless otherwise agreed to between the supplier and the purchaser, the sampling plan as given in 7.1.1 shall be followed.

7.1.1 In case zig-zag sewing machine head is assembled from the components manufactured to the requirements of various Indian Standards and an adequate proof through record of tests is submitted to the buyer, as given in IS 2500 (Part 1) shall be followed.

8 TESTS

8.1 Accuracy Requirements

Zig-zag sewing machine head shall conform to accuracy requirements prescribed in IS 15449 (Part 2).

8.2 Sewing Requirements

Zig-zag sewing machine head shall conform to sewing requirements prescribed in IS 15449 (Part 3).

8.3 Durability Requirements

Zig-zag sewing machine head shall conform to durability requirements prescribed in IS 15449 (Part 4).

9 ACCESSORIES IN SERVICE BOX

9.1 The following items shall be supplied with each machine:

- a) Two screw drivers (engineering), one large (machine) and one small (tension);
- b) Three bobbins: Plastic or Metallic;
- c) Three needles (minimum). Twin needles and embroidery needle (DBK5) may be included as optional;
- d) Instruction manual; and
- e) Different types of presser foot.

9.1.1 The following items shall also be supplied with the machine in separate packing, if not possible to be supplied in service box:

- a) One bottle containing 50 ml oil, and
- b) Instruction manual.

10 MARKING

10.1 Each machine shall be identified by a name plate or a screen print giving the name of model, manufacturer's name or trade-mark. The serial number of the machine shall be engraved/punched on the bed plate.

10.2 BIS Certification Marking

The zig-zag machine head may also be marked with the Standard Mark.

10.2.1 The use of the Standard Mark is governed by

the provisions of the *Bureau of Indian Standards Act, 1986* and Rules and Regulations made thereafter. The details of conditions under which the licence for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

11 PACKING

Packing of zig-zag machine head shall be such that the surface finishes of machine and components are not affected by mishandling, moisture and environment, etc.

ANNEX A

(Clause 2)

LIST OF REFERRED INDIAN STANDARDS

<i>IS No.</i>	<i>Title</i>	<i>IS No.</i>	<i>Title</i>
2500 (Part 1) : 2000	Sampling inspection procedures: Part 1 Attribute sampling plans indexed by Acceptable Quality Level (AQL) for lot by lot inspection (<i>third revision</i>)	IS 15449 (Part 2) : 2004 (Part 3) : 2004 (Part 4) : 2004	Household zig-zag sewing machine head: Accuracy requirements Sewing requirements Durability requirements

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Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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